

REMARKS

Reconsideration is requested.

Claims 1-30, 34, 43 and 49 have been canceled, without prejudice. Claim 31 has been amended, without prejudice, to advance prosecution. Support for the amendment may be found, for example, in the description on page 7, lines 35-38. No new matter has been added. Entry of the present amendment is requested.

The Section 103 rejection of claims 31, 32, 37, 48, 50-51, 55 and 57-61 over Cameron (U.S. Patent No. 4,722,837) in view of Andrews (U.S. Patent No. 5,378,731) and The Handbook of Cosmetic Science and Technology, is traversed. The Section 103 rejection of claims 33, 35 and 35 over Cameron, Andrews, The Handbook of Cosmetic Science and Technology and Kligman (U.S. Patent No. 5,998,395), is traversed. The Section 103 rejection of claims 52-54 and 56 over Cameron, Andrews, The Handbook of Cosmetic Science and Technology and Cauwet (U.S. Patent No. 5,661,118), is traversed. Reconsideration and withdrawal of the rejections are requested in view of the following further distinguishing comments.

Andrews is understood to describe a shampoo composition for disinfecting, cleansing, conditioning and moisturizing hair.

The composition comprises:

(a) an antimicrobial agent comprising a fatty acid monoester of a polyhydroxy alcohol,

(b) a cleansing agent chosen from anionic and nonionic surfactants (Col. 4, lines 21-39),

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(c) a conditioner, and

(d) a moisturizer agent.

These compositions may optionally include other adjuvants such as foam boosters, fragrances, viscosity modifiers, hair shining agents, perlizing agents, thickening agents, dyes and the like (Col. 5, lines 41-49).

In preferred shampoos, the amount of viscosity modifier is about 0.1 to 5% by weight, based on the total weight of the composition. Moreover, propylene glycol is cited as a preferred viscosity modifier.

The examples describe shampoo compositions applied to animals like horses, cats or dogs. Only four compositions A, B, H and I over nine exemplified compositions contain propyleneglycol as a viscosity modifier in a quantity of 1% by weight, based on the total weight of the composition.

The Examiner combines Cameron with Andrews and The Handbook of Cosmetic Science and Technology to allege that the presently claimed invention would have been obvious.

The differences between the presently claimed invention and Cameron et al, as noted by the Examiner (page 3, lines 1-2 of the Office Action), include the following:

the presence of a propenetrating agent, and

the combination of anionic and amphoteric surfactants.

A further difference is the optional use of retinoids.

Contrary to the Examiner's assertion (see, page 4, lines 5-7 of the Office Action dated April 8, 2005), the present inventors have not searched for "achieving a composition in which the viscosity can be altered so as to achieve a shampoo that is

preferable to those with long hair and those with short hair". The search for a particular viscosity is not the main aim of the present invention, and one of ordinary skill in the art would not have been motivated by Andrews or Cameron to have made the presently claimed invention.

The inventors have searched for a foaming composition for washing and treating hair and/or scalp in order to improve the penetration of active principles chosen from corticosteroids and retinoids, and to improve the characteristics of volume and compactness of the foam, while allowing the hair to exhibit good cosmetic properties such as softness, non-greasiness and manageability, as well as obtaining a composition stable over time.

There is no more information (relative to the teaching of Cameron et al) in Andrews et al which would have led one of ordinary skill in the art to provide the penetration of active principles chosen from corticosteroids and retinoids, and/or to improve the characteristics of volume and compactness of the foam, while allowing the hair to exhibit good cosmetic properties, to introduce a propenetrating agent, to combine anionic and amphoteric surfactants.

As a matter of fact, Andrews et al is understood to only teach propylene glycol as viscosity modifier (see column 5, lines 15-36) as it is used to reduce gelling and excessive thickening of the shampoo. It corresponds to an ingredient that serves to alter the viscosity of a composition so as to achieve a desired viscosity. Consequently, the cited art does not teach propylene glycol as a propenetrating agent, which is not used as a propenetrating agent (see claim 31 and examples I to XIV wherein only an alcohol (ethanol) or a glycol ether (ethoxydiglycol) is used).

A propenetrating agent is defined in the description of the invention on page 7, lines 31-34 as facilitating the penetration of the active principles chosen from corticosteroids and retinoids, and preferably dissolves the active principle in the composition of the presently claimed invention.

Although propyleneglycol may be cited in Andrews et al, there is no indication, suggestion and/or teaching of its use to facilitate the penetration of the active principles chosen from corticosteroids and retinoids, and to dissolve an active principle in the composition of the presently claimed invention. Moreover, the nature of the active principles is not disclosed in Andrews et al.

Furthermore, the shampoo according to the presently claimed invention which contains an active principle works deep into the scalp, the corticoids acting at the dermis level and the retinoids acting at the sebaceous gland level, whereas the shampoo of Andrews et al containing an antimicrobial agent only acts at the surface of the scalp. To include propenetrating agent of the presently claimed invention therefore would have been contrary to Andrews.

Moreover, no amphoteric surfactant is described in Andrews et al, and no association of a principle active chosen from corticosteroids and retinoids, of anionic and amphoteric surfactants and of a particular propenetrating agent is taught or suggested by Andrews et al.

The Handbook of Cosmetic Science and Technology, the reference is understood to describe different types of ingredients that can be contained in shampoo formulations, and in particular primary surfactants and secondary surfactants.

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The function of primary surfactants is to impart cleansing properties to the shampoo composition. The primary surfactants are understood to be almost always anionic in nature.

The function of secondary surfactants is to stabilize the foam and mitigate the irritancy of the primary surfactant. The secondary surfactants are understood to generally be selected from amphoteric and nonionic surfactants.

The cited Handbook indicates no preferred nature for the secondary surfactants. There is no further suggestion in this document for one ordinarily skilled in the art to choose either a nonionic or amphoteric surfactant in order to improve in particular the penetration of the active principle chosen from corticosteroids and retinoids.

Moreover, as Andrews et al is understood to specifically teach the combination of anionic (sodium methyl cocoyl taurate, sodium lauryl ether sulfate) and nonionic (cocamide DEA (see the Science of Hair Care, Charles Zviak, 1986 pages 65-66)) surfactants in exemplified compositions (examples 1, 3 and 4), one of ordinary skill in the art would have chosen nonionic surfactants.

There is no teaching nor suggestion in Cameron et al, Andrews et al or The Handbook of Cosmetic Science and Technology, which would have led one of ordinary skill in the art to use the combination anionic surfactants, amphoteric surfactants, particular propenetrating agent in a quantity of 0.1-25 weight % and particular active principles, in order to improve in particular the penetration of the active principle while providing very good cosmetic properties, characterized in particular by the production of a volume and compact foam, as provided by the presently claimed invention. The

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improvement of the penetration provided by the presently claimed invention allows a low application frequency in the treatment of the ailments of scalp.

Although compositions according to the present invention are in the form of shampoo, namely compositions that are rinsed out, treatment with the claimed compositions only requires 2 to 3 applications per week (page 21, lines 22-23 of the description). One of ordinary skill in the art would have thought that such a composition for washing and treating would not lead to an effective treatment of the scalp in such few applications.

Moreover, a clinical study showed that a composition according to the invention, when applied once daily for two weeks, allows a surprising and unexpected reduction of the lesions due to psoriasis (page 27, lines 5-12 of the description).

Consequently, the invention as claimed in new claim 31 and in dependent claims 32, 37-42, 44-48, 50, 51 and 57-61, would not have been obvious to one of ordinary skill in the art from the combined teachings of Cameron, Andrews and the cited Handbook and withdrawal of the Section 103 rejection based on the same is requested.

The claims are similarly submitted to be patentable over the combination of Cameron, Andrews, the cited Handbook and Kligman. The deficiencies of Cameron, Andrews and the cited Handbook are noted above. Kligman fails to cure these deficiencies.

The general teaching of Kligman et al involves the use of the association of retinoids and corticosteroids in the treatment of chronic dermatoses. However, the compositions taught by Kligman et al are not rinse-out compositions. They are in the form of creams, dressings, gels, lotions, ointments or liquids. The exemplified

compositions are creams (examples 1, 3, 4, 6, 7, 9) and water-in-oil emulsion (example 8). When applied, these compositions are left on the skin.

Consequently, although Kligman et al may teach retinoids and corticosteroids in the treatment of chronic dermatoses, they do not teach foaming compositions for washing and treating hair and/or scalp (that are rise-out compositions), nor the same frequency of applications of the compositions. The compositions of Kligman et al are applied twice daily during two or three weeks. (Col. 9, lines 39-41, and examples 1-3, 5, 6) in order to have a rapid resolution of dermatoses, whereas the compositions according to the presently claimed invention can be applied 2 to 3 times per week (page 21, lines 22-23 of the description) or once daily for two weeks (clinical study on page 27, lines 5-12 of the description).

The claims are submitted to be patentable over the combination of Cameron, Andrews, the cited Handbook and Kligman and withdrawal of the Section 103 rejection of claims 33, 35 and 36 based on the same is requested.

The claims are similarly submitted to be patentable over the combination of Cameron, Andrews, the cited Handbook and Cauwet. The deficiencies of Cameron, Andrews and the cited Handbook are noted above. Cauwet fails to cure these deficiencies.

Although Cauwet et al may teach the combination of anionic and amphoteric surfactants, there is no more indication nor suggestion about the fact that this combination associated with an active principle chosen from corticosteroids and retinoids, and a propenetrating agent, results in particular in the improvement of the penetration of said active principle, thus allowing a low application frequency (see page

21, lines 22-23 and page 27, lines 5-12) than is provided in the earlier-cited primary references.

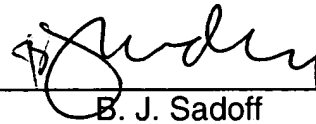
Thus, the presently claimed invention would not have been obvious to one of ordinary skill in the art over Cameron, Andrews, the cited Handbook and Cauwet and withdrawal of the Section 103 rejection of claims 52-54 and 56 based on the same is requested.

The claims are submitted to be in condition for allowance and a Notice to that effect is requested.

Respectfully submitted,

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THE SCIENCE OF HAIR CARE

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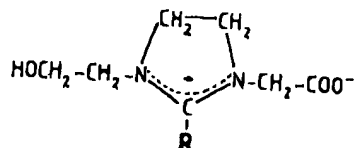
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Scalp and Hair Hygiene

65

These compounds were developed in Germany under the brand name Tegobetaines [26].

The Miranol surfactants are zwitterionic imidazolium derivatives. According to recent findings [27], their chemical structure should be represented by the following formula (XXI)



(XXI)

Other dipolar surfactants in which the carboxylate group is replaced by a sulfonate group are known as sulfobetaines or sultaines.

As a rule, amphoteric and zwitterionic surfactants are less toxic and less irritant than their cationic counterparts. They are generally associated with other surfactants, anionics and nonionics, to formulate mild shampoos (non-irritating baby shampoos) [28].

Amphoteric and zwitterionic surfactants form "complexes" with anionics. As a result the latter are less prone to adsorb onto proteins.

D. Nonionic Surfactants

This class of surfactant includes a great number of compounds whose flexibility of design is a distinctive feature. They generally have good solubilizing and dispersing properties and can be tailored to meet the requirements of detergency. Nonionics are usually regarded as the mildest of surfactants. This advantage is evident when they are applied in washing simulation experiments (e.g., arm-immersion tests), the results of which have been explained by the absence of denaturation of proteins [29,30]. In addition, nonionic surfactants adsorb to a low extent onto keratin.

Until recently, in spite of these favorable characteristics, these compounds had not been used as the main ingredients of shampoos; they were added as auxiliaries. These limited applications are generally ascribed to the rather poor foaming properties of nonionics. Several types of nonionic surfactants are significant in shampoo formulations. They are described here.

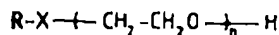
Alkanolamides

Monoalkanolamides, and more specifically, monoethanolamides ($\text{R-CO-NH-CH}_2\text{-CH}_2\text{OH}$) or monoisopropanolamides ($\text{R-CO-NH-CH}_2\text{-CHOH-CH}_3$) are useful as foam boosters and stabilizers in formulations based on alkyl sulfates. In

addition, they possess thickening properties. Stearic ethanolamide is a pearlescent thickener. Olcic ethanolamide is useful as a hair conditioner.

Polyethoxylated Derivatives

Polyethoxylated derivatives are surfactants that are obtained by reacting ethylene oxide with a hydrophobic compound containing one or several active hydrogen atoms. Derivatives of monofunctional compounds are represented by the general formula



(XXII)

in which

R denotes a hydrophobic radical

n is the average number of ethyleneoxy radicals per molecule.

X stands for oxygen, CO-O, or CO-NH.

Polyethoxylated derivatives of fatty alcohols are generally used in shampoos for their detergent properties, which are optimal when n is equal to about two-thirds of the number of carbon atoms in the hydrophobic alkyl radical R. This condition goes hand in hand with eye irritancy. When n is substantially higher, the latter decreases. Thus, it is helpful to combine strongly hydrophobic polyethoxylated fatty alcohols with other surfactants, mainly amphoterics, in order to produce mild shampoos. As a rule, polyoxyethylene fatty esters (X = COO) are milder than their ether counterparts. They are poor foamers. This property is ascribed to the presence of polyoxyethylene diesters, which are formed in the ethoxylation process. Polyoxyethylene diesters of long-chain fatty acids are useful as thickeners.

Polyethoxylated derivatives of alkanolamides are used as solubilizers. Polyethoxylated esters of polyols, such as polyethoxylated sorbitan esters, Tween-20 for instance, are basic ingredients of baby shampoos, owing to their outstanding mildness. Furthermore, they reduce or minimize the irritation characteristics of ionic surfactants and so are used in combination with ether sulfates and betaines.

The polyoxypropylene-polyoxyethylene block polymers (Pluronic) can be substituted for the ethoxylated sorbitan esters.

Polyhydroxy Derivatives

For years, the use of polyol derivatives such as sucrose monolaurate as shampoo surfactants has been contemplated because they are highly innocuous, but none of them has found a place in commercial usage. On the other hand, polyglycerol

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